



Body System: Special Sensory		
Session Topic: Management of Eye Injuries		
Educational Format		Faculty Expertise Required
REQUIRED	Interactive Lecture	Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience with audience response systems (ARS). Utilizing polling questions and engaging the learners in Q&A during the final 15 minutes of the session are required.
OPTIONAL	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. <u>Please describe your interest and plan for teaching a PBL on your proposal form.</u>
Professional Practice Gap	Learning Objective(s) that will close the gap and meet the need	Outcome Being Measured
<ul style="list-style-type: none"> • Family physicians should be able to perform timely physical examinations to determine the nature of an eye emergency and refer patients to an ophthalmologist as necessary to prevent vision loss. • Family physicians should evaluate eye emergencies and intraocular foreign bodies to determine whether surgery or further testing is needed and make referrals as necessary. • Family physicians should be familiar with the symptoms of iritis and help patients coordinate with specialists for treatment. • Primary care physicians have a knowledge gap with regard to making timely diagnoses in the outpatient setting. • Family physicians have knowledge and practice 	<ol style="list-style-type: none"> 1. Perform timely physical examinations to determine the nature of an eye emergency and refer patients to an ophthalmologist as necessary. 2. Evaluate eye emergencies, particularly central retinal artery occlusion and intraocular foreign bodies, to determine when further testing or surgery might be necessary. 3. Coordinate with sub-specialists, to receive necessary care to prevent vision damage, for patients identified with symptoms of iritis. 	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.



<p>gaps with regard to proficiently using slit lamp; performing an effective eye examination with the appropriate equipment; recognizing when referral is appropriate; foreign body removal procedures; effective use of antibiotic eye drops; and effective follow-up.</p> <ul style="list-style-type: none"> • Family medicine students and residents receive inadequate education to diagnose and manage common ocular conditions • Family physicians serving in an emergency/urgent capacity are often not trained to use ophthalmic ultrasound to examine the peripheral retina. 		
ACGME Core Competencies Addressed (select all that apply)		
X	Medical Knowledge	Patient Care
	Interpersonal and Communication Skills	Practice-Based Learning and Improvement
	Professionalism	Systems-Based Practice
Faculty Instructional Goals		
<p>Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.</p> <ul style="list-style-type: none"> • Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations • Facilitate learner engagement during the session • Address related practice barriers to foster optimal patient management • Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the <u>References</u> section below are a good place to start <ul style="list-style-type: none"> ○ Visit http://www.aafp.org/journals for additional resources ○ Visit http://familydoctor.org for patient education and resources • Provide recommendations for performing timely physical examinations to determine the nature of an eye emergency and refer patients to an ophthalmologist as necessary. 		



- Provide recommendations for evaluating eye emergencies, particularly central retinal artery occlusion and intraocular foreign bodies, to determine when further testing or surgery might be necessary.
- Provide strategies and resources for coordinating with sub-specialists, to receive necessary care to prevent vision damage, for patients identified with symptoms of iritis.

*Note – the scope of this topic is intended to include eye injuries, eye emergencies, & foreign body in eye.

Needs Assessment

During 2007–2010, an average of 2.4 million eye-related visits were made to emergency departments (EDs) each year. During this period, 43.7 visits per 10,000 persons were the result of medical conditions, and 37.6 visits per 10,000 persons were the result of injuries. Significant differences in the reason for eye-related ED visits were observed by age group. Children and persons aged ≥ 65 years were more likely to visit the ED for an eye-related medical condition than an eye injury. The eye-related visit rate for a medical condition was highest among those aged ≤ 18 years (63.3 per 10,000 persons) and lowest among those aged ≥ 65 years (27.3).¹

Each day about 2000 U.S. workers sustain a job-related eye injury that requires medical treatment. About one third of the injuries are treated in hospital emergency departments, and more than 100 of these injuries result in one or more days away from work.² The Occupational Safety and Health Administration (OSHA) reports that workplace eye injuries cost an estimated \$300 million a year in lost productivity, medical treatment and worker compensation.³

Practice Gaps

Primary care physicians have a knowledge gap with regard to making timely diagnoses in the outpatient setting; and therefore, require education and training to help them consistently apply evidence-based clinical recommendations and guidelines to practice.⁴ Additionally, American Academy of Family Physicians (AAFP) CME Needs Assessment Survey data suggests that family physicians have a statistically significant and meaningful knowledge and skill gap in managing eye injuries/emergencies and foreign objects in the eye.⁵ More specifically, CME outcomes data from the 2012 AAFP Assembly: *Management of Eye Injuries and Emergencies* sessions, suggest that family physicians have knowledge and practice gaps with regard to proficiently using slit lamp; performing an effective eye examination with the appropriate equipment; recognizing when referral is appropriate; foreign body removal procedures; effective use of antibiotic eye drops; and effective follow-up.⁶

A review of the literature suggests that not only do family medicine students and residents receive inadequate education to diagnose and manage common ocular conditions; but that there has been a steady decline since 2000 of the number of medical schools requiring an ophthalmology rotation.⁷⁻⁹ Additionally, family physicians serving in an emergency/urgent capacity are often not trained to use ophthalmic ultrasound to examine the peripheral retina.¹⁰



Physicians may improve their care of patients with eye injuries by engaging in continuing medical education that provides practical integration of current evidence-based guidelines and recommendations into their standards of care, including, but not limited to the following:¹¹⁻¹⁴

- Patients who notice symptomatic floaters and flashing lights should be referred immediately to an ophthalmologist for evaluation of a retinal tear or detachment.
- Patients with a suspected globe injury should be referred immediately to an ophthalmologist.
- Prophylactic systemic antibiotics should be administered to prevent endophthalmitis after a globe rupture or laceration.
- A chemical eye injury should be irrigated with lactated Ringer's solution or normal saline until the pH of the ocular surface is within the normal range.
- Immediate imaging of the orbits and ophthalmology consultation are warranted for patients presenting acutely with vision changes, decreased extraocular movements, or penetrating trauma.
- Patching for corneal abrasions should be avoided.
- Topical nonsteroidal anti-inflammatory drugs offer effective pain relief from corneal abrasion and may result in earlier return to work.
- Meta-analysis with inconsistent results
- Topical cycloplegics and mydriatics do not relieve pain in uncomplicated corneal abrasions and are not recommended.
- Systematic review of lower-quality clinical trials
- Topical anesthetics are not recommended for corneal abrasions because of epithelial toxicity, delayed healing, and symptom masking.
- Bench research and general consensus
- Corneal abrasions should not be patched because patching does not improve pain and can delay healing.
- Meta-analysis with consistent results
- Topical antibiotics may be prescribed to prevent bacterial superinfection in corneal abrasions.

These recommendations are provided only as assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations. These recommendations are only one element in the complex process of improving the health of America. To be effective, the recommendations must be implemented. As such, physicians require continuing medical education to assist them with making decisions about specific clinical considerations.

Resources: Evidence-Based Practice Recommendations/Guidelines/Performance Measures

- Common Eye Emergencies¹³
- Evaluation and Management of Corneal Abrasions¹²
- Evaluation of the Painful Eye¹⁵
- Ocular Emergencies¹⁶



- Pain in the quiet (not red) eye¹¹
- Differential Diagnosis of the Swollen Red Eyelid¹⁴
- FamilyDoctor.org. Eye Injuries in Sports¹⁷

References

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16. Pokhrel PK, Loftus SA. Ocular emergencies. *American family physician*. 2007;76(6):829-836.



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